

Education	1950-1954	City College of New York, BS Magna Cum Laude (Chemistry)
	1954-1957	Columbia University, PhD (Physical Chemistry)
	1957-1959	Cambridge University, England, PhD (Colloid Science)

Academic Appointments

1954-1955	Assistant in Chemistry, Columbia University
1955-1957	Research Fellow (Chemistry), Columbia University
1957-1959	Postdoctoral Research Fellow, Cambridge University, England
1959-1964	Instructor in Physiology, Columbia University
1964-1968	Assistant Professor of Physiology, Columbia University
1968-present	Associate Professor of Physiology and Cellular Biophysics, Columbia University

Other Appointments

Summer 1956	Chemist, California Research Corp. Richmond, CA.
Summer 1957	Chemist, Esso Research and Engineering Co., Linden, NJ.
Fall 1961	Research Fellow, Cambridge University, England
Summer 1964	Chemist, Unilever Research Lab, Cheshire, England
Summer 1966	Visiting Scientist, Polymer Dept, Weizmann Institute, Israel
Summer 1967	Chemist, Unilever Research Lab, Hertfordshire, England
Summer 1968	Visiting Scholar, Bioengineering Dept, University of California, Berkeley
Summer 1969	Research Chemist, Unilever Res Lab, Vlaardingen, Netherlands
1970	Visiting Professor, Pharmacology Dept, Hebrew University, Israel
1974-1975	Physiologist, Office of Naval Research, London, England
1982 (6 mo.)	Visiting Lecturer, Biochemistry Dept, Monash University, Australia
1984-1985	Biologist, Office of Naval Research, Arlington, VA
1986-1988	Part-time IPA Biologist, Office of Naval Research, Arlington, VA
1989 (May)	Visiting Professor, Acad Sci USSR, Inst Electrochemistry, Moscow, and Dept of Biophysics, Univ of Warsaw, Poland
1992 (Nov)	Visiting Professor, Tata Institute, Bombay, India
1995 (spring)	Visiting Professor, Dept of Chemistry, University of the Negev, Beersheba, Israel Visiting Scientist, Dept of Biology, University of Victoria, BC, Canada

Honors

- 1953 Elected to Phi Beta Kappa, City College
 1956 Elected to Sigma Xi, Columbia University
 1955-1957 Consumers Union Research Fellowship, Columbia University
 1957-1959 Postdoctoral Research Fellowship, National Heart Institute, Cambridge University
 1960-1970 Research Career Development Award (NIH), Columbia University
 1975 Certificate of Appreciation, Office of Naval Research, London
 1982 (June) Distinguished Visiting Professor, Univ Western Australia
 1984 Distinguished Lecturer in Physiology, Wayne State University
 1985 Certificate of Commendation, Office Naval Research, Arlington
 1987 Invited Lecturer, International Biophysics Congress, Jerusalem
 1988 Invited Lecturer, Univ of Bologna, 900th Anniversary Symposium
 1989 (May) Visiting Professor, Acad Sci USSR, Institute of Electrochemistry, Moscow
 and Dept of Biophysics, University of Warsaw, Poland
 1990 Certificate of Appreciation, The Electrochemical Society
 Yasuda Award, Bioelectrical Repair and Growth Society
 1992 Invited Opening Speaker, First Congress of European Bioelectromagnetics Association,
 Brussels, Belgium
 (Nov) Visiting Professor, Tata Institute, Bombay, India
 1992-1993 Editor-in Chief, Proceedings, First World Congress on "Electricity and Magnetism in
 Biology and Medicine"
 1993 American Editor, "Bioelectrochemistry and Bioenergetics"
 Certificate of Appreciation, American Chemical Society, Environment Division
 1995 (spring) Visiting Professor, Dept of Chemistry, University of Beersheba, Israel
 Visiting Scientist, Dept of Biology, University of Victoria, BC, Canada
 1997 Plenary Lecturer, Second World Congress on "Electricity and Magnetism in Biology and
 Medicine", Bologna, Italy

Areas of Research**General Experimental and Theoretical Areas:**

Electromagnetic field effects on cells (stress response, enzyme reactions, DNA)

Membranes and transport mechanisms (active, passive, excitation mechanisms)

Biopolymers (surface and electrical properties of proteins, DNA)

Theoretical Models of Processes in Membranes and Biopolymers:

Electric and magnetic field effects in electron transfer reactions, enzymes, channels, DNA

Ion fluxes in excitable membranes and ion gating

Cooperative reactions in membranes, hemoglobin

Specific Biological Systems:

Na,K-ATPase and cytochrome oxidase (effects of ions and EM fields)

Proteins (hemoglobin, red cell membrane, lung surfactant, Sciara salivary gland proteomics)

Cells (re blood cells, sperm cells, HL60, Sciara salivary gland, E. coli)

Membranes (red cells, sperm cells, enzymes)

Interfaces, Monolayers (proteins, lipids, ions), Bilayers:

Permeability (to water, gases, ions) and Rheology (elasticity, yield stress, flow)

Electrical Effects: Adsorption, Electrode Noise, Surface Potential

Teaching

Faculty of Medicine - College of Physicians and Surgeons, Columbia University

Medical Physiology - from 1961 to 1991

Lectures- physical biochemistry, membranes, transport.

Demonstrations- membrane properties, lung surfactant, analog computer.

Laboratory teaching including mammalian experiments.

Course Director, 1989-1990

Computerized syllabus and administration (30 faculty, 310 students)

Introduced lab reports and new lab exercise

Faculty of Pure Science - Graduate School of Arts and Sciences, Columbia University

Basic Principles in Membrane Biophysics - Physical biochemistry,
membranes, electrical properties, ion transport (1970-2001)

Membrane Biophysics - Surfaces, membranes, channels, model systems.

Graduate Seminar - Basic papers on membranes and transport.

Control Mechanisms in Physiology - Lectures and lab on analog computer.

Principles of Physiology - Lectures on biophysics (membranes, biopolymers)

Ettore Majorana Center, Erice, Italy-International School of Biophysics

1981 Bioelectrochemistry I: Redox Processes

1984 Bioelectrochemistry II: Membrane Phenomena

1988 Bioelectrochemistry III: Charge Separation Across Biomembranes

1991 Bioelectrochemistry IV: Nerve-Muscle Function

National Medical School Review

Lectures on Membranes, Nerve, Muscle

City University of New York (Graduate School)

Surface Chemistry - Lectures on Surface Chemistry in Biology

Tata Institute, Bombay, India

Course in Bioelectrochemistry

University of Beersheba (Department of Chemistry), Israel

Course in Biophysics

Faculty Committees

Admissions, Faculty Council (and Executive Committee of the Faculty Council), By-Laws (Formulation of Stated Rules), First Year Faculty, Divisional Elections Commission, ad hoc tenure and department review committees.

Department of Physiology: Director of Seminar Program 1973-1984, Graduate Committee, Undergraduate Committee

Society Memberships

American Association for the Advancement of Science

Bioelectromagnetics Society

Bioelectrochemical Society

American Chemical Society (Colloid and Surface Chemistry Division)

Biophysical Society

Electrochemical Society (Organic and Biological Division)

Professional Activities**Editorial Boards**

Bioelectrochemistry and Bioenergetics - Editorial Board, 1978 -1998;
 Co-Editor, 1981 - 1987; North American Editor, 1993 - 1998
 Journal of Electrochemical Society - Divisional Editor, 1978 -1991
 Journal of Colloid and Interface Science - Advisory Board, 1978 -1981
 Colloids and Surfaces (founded 1979) - Editorial Board, 1979 -1986

Bioelectrochemical Society

Founding Member, March 1979; Vice President, 1979 - 1988; President, 1988 - 1992.
 Co-organizer, 4th International Symposium, Woods Hole, MA, 1977.
 Plenary Lecturer, Weimar, DDR, 1979.
 Organizing Committee, Topical Lecturer, Jerusalem, 1981.
 Scientific Committee, Stuttgart, Germany, 1983.
 Liaison to Bioelectromagnetics Society Board, 1984-1996.
 Scientific Committee, Invited Lecturer, Bologna, Italy, 1985.
 Organizing Committee, Invited Lecturer, Szeged, Hungary, 1987.
 Honorary Committee, Invited Lecturer, Pont-a-Mousson, France, 1989.
 Honorary Committee, Invited Lecturer, Bielefeld, Germany, 1992.
 Honorary Committee, Invited Lecturer, Seville, Spain, 1994.
 Honorary Committee, Symposium Organizer, Invited Lecturer, Israel, 1996.
 Organizer, Symposium on Biological Effects of Environmental EM Fields, Israel, 1996.
 International Scientific Committee, Invited Lecturer, Denmark, 1998
 Invited Lecturer, Bratislava, Slovakia, 2001
 International Scientific Committee, Invited Lecturer, Florence, Italy, 2003

Bioelectromagnetics Society

Invited Lecturer, BEMS meetings, San Francisco, CA, 1985; Madison, WI, 1986;
 Stamford, CT, 1988; Quebec, Canada, 2002
 Invited Speaker, BEMS Workshop on Cooperative Phenomena, Bethesda MD, 1988
 Invited Speaker, BEMS Gene Workshop, Los Angeles, CA, 1993
 Board of Directors, 1989-1992; liaison from BES 1985-1996.
 President Elect, 1996; President, 1997-1998; Past President, 1998-1999
 (Nominating Comm, Journal Comm, Public Affairs Comm)
 Plenary Lecturer, Quebec, Canada, 2002

World Congress on Electricity and Magnetism in Biology and Medicine

1992-3 Executive Committee, Site Selection Committee, Program Committee.
 1992-3 Editor-in-Chief of Proceedings Volume, First World Congress
 1994-7 Vice President, Executive Committee for Second World Congress
 Chairman, Technical Program Committee, Second World Congress

International School of Biophysics, Erice, Italy; Co-Director and Lecturer in following:

Bioelectrochemistry I: Biological Redox Reactions and Energetics, 1981.
 Bioelectrochemistry II: Membrane Phenomena, 1984.
 Bioelectrochemistry III: Charge Separation Across Biomembranes, 1988.
 Bioelectrochemistry IV: Nerve-Muscle Function, 1991.

Division of Colloid and Surface Chemistry, American Chemical Society

Symposium Chairman, "Surface Chemistry of Biological Systems", 1966

Symposium Chairman, "Surface Chemistry of Biological Systems", 1969

VK LaMer Award Committee, 1971-1976, Chairman 1975-1976

Symposium Chairman, "Bioelectrochemistry", Miami, 1978; Cleveland, 1981; Washington, 1983; Denver, 1987

Program Committee, Biology and Medicine, Chairman, 1979-1983

Invited Lecturer, Colloid and Surface Science Symposium, Ann Arbor, 1987

Invited Lecturer, Biological Interfacial Reactions Symposium, Atlanta, 1991

Division of Organic and Biological Electrochemistry (Electrochemical Soc)

Symposium Chairman, "Electrochemical Processes at Biological Membranes", Seattle, 1978

Officer: Secy-Treas 1979-1981; V Chair 1981-1983; Chair 1983-1985.

Board of Directors, Electrochemical Society, 1983-1985.

Symposium Chairman, "Electrical Double Layers in Biology", Toronto, 1985.

Invited Speaker, "Ion Transfer Across Interfaces", Boston, 1986.

Member, Interdivisional Committee on Chemical Sensors, 1984-1987.

Invited Speaker, "Redox and Interfacial Properties", Washington, 1991.

Gordon Research Conferences

Invited speaker 1963, "Chemistry at Interfaces"

Invited speaker 1978, "Sensory Transduction in Microorganisms"

Day Chairman and speaker 1974, "Chemistry at Interfaces"

Organizing Chairman 1980, First Conference "Bioelectrochemistry"

Day Chairman and speaker 1982, "Bioelectrochemistry"

Speaker 1984, "Bioelectrochemistry"

Speaker 1985, "Protons and Membrane Reactions"

Speaker 1985, "Physicochemical Aspects, Transport in Microvasculature"

Speaker 1986, "Bioelectrochemistry"

Speaker 1988, "Bioelectrochemistry"

Invited Discussion Leader, 1990, "Bioelectrochemistry"

Invited Discussion Leader, 1992, "Bioelectrochemistry"

Invited Discussion Leader, 1994, "Bioelectrochemistry" (first in Europe)

Invited Discussion Leader, 1998, "Bioelectrochemistry"

Invited Discussion Leader, 2000, "Bioelectrochemistry" (Oxford)

Invited Discussion Leader, 2002, "Bioelectrochemistry"

Invitations to Miscellaneous Meetings, Workshops, Panels (Departmental Seminars not listed)

Chairman and Lecturer, "Physical Chemistry of Interfacial Transport: Biological Interfaces - Flows and Exchanges" NY Heart Assoc, 1968

Chairman and Lecturer, "Transport and Rheology of Interfacial Layers", Internat Conf on Surface and Colloid Science, Jerusalem, Israel, 1981

Lecturer, "Structure and Function in Excitable Cells", Biophysical Congress Satellite Conf, Woods Hole, MA 1981

Lecturer, "Biophysics of Cell Surface", Arendsee, DDR, 1981

Guest Speaker, CIBA Foundation, Biological Effects of Electromagnetic Fields, London, 1984

Lecturer, "Electrochemical Growth Stimulation", International Society of Electrochemistry,

Berkeley, CA, 1984

Lecturer, "Biophysics of Cell Surface", Heringsdorf, DDR, 1985
 Lecturer, Bioelectrical Repair & Growth Soc, Utrecht, Netherlands, 1986
 Lecturer, IEEE/Engineering in Biology and Medicine Soc, Fort Worth, TX, 1986
 Lecturer, International Biophysics Congress, Jerusalem, Israel, 1987
 Session Organizer, IEEE/Engineering in Biology and Medicine Soc, Boston, MA, 1987
 Lecturer, Bioelectrical Repair & Growth Soc, Washington, DC, 1988
 Lecturer, "Chemistry Physics of Electrified Interfaces", Bologna, Italy, 1988
 Symposium Organizer, "Bioelectrochemistry", AIChE, Washington, DC, 1988
 Speaker, BEMS Workshop on Cooperative Phenomena, Bethesda MD, 1988
 Speaker, National Research Council, "Health Effects of EM Fields", Washington, DC, 1989
 Lecturer, "Electrobiology Today", Bologna, Italy, 1989
 Speaker, California Department of Health Service Workshop on "ELF Field Exposure and Possible Health Effects", Berkeley, CA 1991
 Speaker, FASEB Symposium on "Cancer, EM Fields and Biological Systems", Atlanta, GA 1991
 Panelist, EPA- NYC Dept of Health Panel on Health Effects of EM Fields, New York, NY, 1991
 Panelist, BEMS Workshop, Research Agenda, Health Effects of EM Fields, Milwaukee, WI, 1991
 Opening Speaker, First Congress of European Bioelectromagnetics Association, Brussels, 1992
 Speaker, EPRI Workshop on Neurobiology, Asilomar, CA, 1992
 Speaker, FASEB Symposium, Biological Effects of Electromagnetic Fields, Anaheim, CA, 1992
 Panelist, Molecular Electronics Symposium, First World Congress on Electricity and Magnetism in Biology & Medicine, Orlando, FL, 1992
 Lectures (4) on Bioelectrochemistry of Proteins and Membranes, Tata Inst, Bombay, India, 1992
 Plenary Lecture, Bioelectrochemical Society of India, Bombay, 1992
 Speaker, Biophysical Society Public Policy Symposium on Biological Effects of Electromagnetic Fields, Washington, DC, 1993
 Organizer, ACS Symp, Biological Effects of Environmental EM Fields, Denver, CO, 1993
 Speaker, Helen Hayes Hospital, Haverstraw, NY, 1993
 Speaker, Bell Labs (Series on EMF), Murray Hill, NJ 1993
 Speaker, International Society of Molecular Electronics & Biocomputers, Gaithersburg, MD, 1993
 Speaker, International Society of Toxicology, New Orleans, 1993
 Speaker, ACS Conference on Chemical Health and Safety, Garden City, 1993
 Panelist, Deadline Club, "Tension over High Tension", New York, 1993
 Organizer and Speaker, Biophysical Society Workshop on Biological Effects of Environmental Electromagnetic Fields, New Orleans, LA, 1994
 Speaker, ACS Conference on Environment, Hofstra University, NY, 1994
 Lecturer, Hackensack Meadowlands Environment Center, Lyndhurst, NJ, 1994
 Plenary Lecture, International Society of Electrochemistry, Portugal, 1994
 Seminar Lecturer, Weizmann Institute, Rehovoth, Israel, 1995
 Seminar Lecturer, Hebrew University-Hadassah Medical School, Jerusalem, Israel, 1995
 Seminar Lecturer, Wayne State University Medical School, Detroit, MI, 1995
 Lecturer, Centre for Environmental Health, Victoria, BC, 1995
 Lecturer, Victoria Cancer Clinic, Royal Jubilee Hospital, Victoria, BC, 1995
 Speaker, First World Congress in Magnetotherapy, London, UK, 1996
 Speaker, Applied Physics Division, CSIRO, Sydney, Australia, 1996
 Speaker, Complementary Healing Conference, Baltimore, MD, 1996
 Speaker, Vermont Law School Conference "Unplugged", Killington, VT, 1996

Speaker, 9th International Congress on Stress, Montreux, Switzerland, 1997
Speaker, Internat'l Comm Non-Ionizing Radiation Protection/ World Health Org (ICNIRP/WHO) Seminar, Bologna, Italy, 1997
Plenary Lecturer, Second World Congress on "Electricity and Magnetism in Biology and Medicine", Bologna, Italy, 1997
Speaker, Fourth Congress of European Bioelectromagnetics Ass'n, Zagreb, Croatia, 1998
Speaker, 10th International Congress on Stress, Montreux, Switzerland, 1999
Speaker, Electromed99, Norfolk, VA, 1999
Speaker, Tutorial on Magnetic Fields, Procter & Gamble, Cincinnati, 1999
Speaker, Potential Therapeutic Applications of Magnetic Fields, Vanderbilt Univ, 1999
Speaker, North American Academy of Magnetic Therapy, Los Angeles, 2000
Speaker, 3rd International Conference on Bioelectromagnetism, Slovenia, 2000
Speaker, Electromed2001, Portsmouth, VA, 2001
Plenary Lecturer, Bioelectromagnetics Society, Quebec, Canada, 2002
Speaker, XXVII URSI General Assembly, Maastricht, Netherlands, 2002
Speaker, EMF - Scientific and Legal Issues , Catania, Italy, 2002

Grant Review Consultant

Office of Naval Research, Department of Defense
IPA Biologist, Manager of Membrane Electrochemistry ARI, 1986-1988
Chairman, Panel on Biological Sciences Div, August 1986
Member, Panel on Interdisciplinary Research, April 1979
Electric Power Research Institute, Palo Alto, CA
Member, Basic Sciences Advisory Committee, 1987-1991
National Institutes of Health
Radiation Study Section, 1991
(several ad hoc Study Sections and site visit committees)
National Science Foundation
US Army Research Office
US-Israel Binational Science Foundation
Petroleum Research Fund
Medical Research Council - Canada
Australian Research Grants Committee
Research Corporation (Providence, Rhode Island)
University and Polytechnic Grants Committee, Hong Kong
International Science Foundation (for Former Soviet Union), Washington, DC
Breast Cancer Research Program, University of California
US Army Medical Research and Materiel Command, Neurotoxin Exposure Program, AIBS
US Army Radiofrequency Radiation Research Program, AIBS

PUBLICATIONS - Books, Reviews, Chapters

1. Blank, M (1957) The Transfer of Monolayers through Surface Channels. **PhD Dissertation**, Chemistry Department, Columbia University, 54pp.
2. Blank, M (1959) The Permeability of Monolayers to Carbon Dioxide and Oxygen. **PhD Dissertation**, Department of Colloid Science, Cambridge University, England, 105pp.
3. Blank, M (1967) Editor, Symposium "Surface Chemistry of Biological Systems". **Journal of Colloid and Interface Science** 24:1-127.
4. Blank, M and Britten, JS (1970) Physical Principles in Monolayer and Membrane Permeation. in **"Physical Principles of Biological Membranes"**, edited by F Snell et al; Gordon & Breach, New York, pp 143-163.
5. Blank, M (1970) Editor, **"Surface Chemistry of Biological Systems"**. Volume 7, "Advances in Experimental Medicine and Biology", Plenum Press, New York, 340pp.
6. Blank, M (1972) The Measurement of Monolayer Permeability, in **"Techniques of Surface Chemistry and Physics"**, Volume I, edited by Good, Stromberg and Patrick; Marcel Dekker Inc., New York, pp 41-88
7. Blank, M (1979) Monolayer Permeability. **Progress in Surface & Membrane Science** 13:87-139.
8. Blank, M (1979) Surface Pharmacology: Drug Binding Equilibria and Ion Transport in Membrane Structures. **Pharmacology and Therapeutics** 7:313-328.
9. Blank, M (1980) Editor, **"Bioelectrochemistry: Ions, Surfaces and Membranes"**, Advances in Chemistry, Volume 188, American Chem Soc, Washington, DC, 527pp.
10. Blank, M (1981) Surface Pharmacology: Drug Binding Equilibria and Ion Transport in Membrane Structures, in **International Encyclopedia of Pharmacology and Therapeutics**, Inhibitors of Mitochondrial Functions, edited by M Erecinska and DF Wilson. Pergamon, New York, pp 19-34.
11. Milazzo, G and Blank, M (1983) Editors, **"Bioelectrochemistry I: Biological Redox Reactions"**, School of Biophysics, Erice, Italy. Plenum, New York, 348pp.
12. Blank, M (1983) Transmembrane Potentials and Redox Reactions from the Physiological Point of View. in **"Bioelectrochemistry I: Biological Redox Reactions"**, edited by G Milazzo and M Blank, Plenum, New York, pp 227-247.
13. Blank, M (1983) The Effects of Surface Compartments of Ion Transport Across Membranes. in **"Structure and Function in Excitable Cells"**, edited by DC Chang, I Tasaki, WJ Adelman and HR Leuchtag; Plenum, New York, pp. 435-449.
14. Blank, M (1986) Editor, **"Electrical Double Layers in Biology"**, Plenum, New York, 319pp
15. Blank, M (1987) The Surface Compartment Model: A Theory of Ion Transport Focused on Ionic Processes in the Electrical Double Layers at Membrane Protein Surfaces. **Biochimica et Biophysica Acta - Reviews on Biomembranes** 906:277-294.
16. Blank, M and Findl, E (1987) Editors, **"Mechanistic Approaches to the Interaction of Electric and Electromagnetic Fields with Living Systems"**, Plenum, New York, 439pp.
17. Milazzo, G and Blank, M (1987) Editors, **"Bioelectrochemistry II: Membrane Phenomena"**, International School of Biophysics, Erice, Italy. Plenum, New York, 543pp.
18. Blank, M (1987) An Electrochemical Perspective on Excitable Membranes, Channels and Gating. in **"Bioelectrochemistry II: Membrane Phenomena"**, edited by G Milazzo and M Blank; Plenum, New York, pp. 431-456.
19. Blank, M (1988) Recent Developments in the Theory of Ion Flow Across Membranes Under Imposed Electric Fields. In **"Modern Bioelectricity"**, edited by AA Marino; Dekker, New York, pp 345-364.

20. Markov, M and Blank, M (1988) Editors, "**Electromagnetic Fields and Biomembranes**", Plenum, New York, 309pp.
21. Blank, M (1990) Editor, **Syllabus for Human Physiology Course**, 13th Edition, Physiology Department, Columbia University, New York, 704pp.
22. Milazzo, G and Blank, M (1990) Editors, "**Bioelectrochemistry III: Charge Separation across Membranes**", Plenum, New York, 337pp.
23. Blank, M (1991) Membrane Transport: Insight from Colloid Science. in "**Interfacial Phenomena in Biological Systems**" edited by M Bender. Dekker, New York, pp 337-366.
24. Blank, M (1993) Electrochemistry of Nerve Excitation, "**Modern Aspects of Electrochemistry**" Number 24, edited by RE White et al, Plenum, New York, pp1-37.
25. Blank, M (1993) Editor-in-Chief, Proceedings of First World Congress on "**Electricity and Magnetism in Biology and Medicine**", San Francisco Press, 952pp.
26. Blank, M and Vodyanoy, I (1994) Editors, "**Biomembrane Electrochemistry**", Advances in Chemistry Series of the American Chemical Society Press, 605pp.
27. Blank, M (1994) An Electrochemical Model of Voltage Gated Channels. **Advances in Chemistry** 235:429-446.
28. Melandri, BA, Milazzo, G and Blank, M (1994) Editors, "**Bioelectrochemistry IV: Nerve-Muscle Function**". Life Sciences Volume 267, Plenum, New York, 376pp.
29. Blank, M (1995) Editor, "**Electromagnetic Fields: Biological Interactions and Mechanisms**", **Advances in Chemistry**, Volume 250, American Chemical Society Press, 512pp.
30. Blank, M (1995) Biological Effects of Electromagnetic Fields: An Overview. **Advances in Chemistry** 250:3-12.
31. Blank, M (1995) Electric Stimulation of Protein Synthesis in Muscle. **Advances in Chemistry** 250:143-153.
32. Blank, M (1995) Electric and Magnetic Field Signal Transduction in the Membrane Na,K-ATPase. **Advances in Chemistry** 250:339-348.
33. Goodman, R and Blank, M (1995) The Biosynthetic Stress Response in Cells Exposed to Electromagnetic Fields. **Advances in Chemistry** 250:423-436.
34. Blank, M (1997) Effects of Electromagnetic Fields on Cells as a Basis for Therapy. in **Proceedings of the First World Congress in Magnetotherapy**, pp. 151-156, London, May 1996.
35. Blank, M (1997) Studies on the Mechanism of Electromagnetic Field Interactions with Cells: I-The Cellular Stress Response in Electromagnetic Fields; II-Electric and Magnetic Signal Transduction in a Membrane Protein. **Electric Power Research Institute Report TR-108947**, 99 pp.
36. Goodman, R and Blank, M (1998) Magnetic Field Induces Expression of hsp70. **Cell Stress and Chaperones** 3:79-88.
37. Goodman, R and Blank, M (2002) Insights into Electromagnetic Interaction Mechanisms. **Journal of Cellular Physiology** 192:16-22.

PUBLICATIONS - Papers

1. LaMer, VK and Blank, M (1956) The Transfer of Surface Films through Surface Channels-Geometrical Factors. **Journal of Colloid Science** 11:608-616. 1956.
2. Blank, M and LaMer, VK (1957) The Mechanism of Transfer of Surface Films. Proceedings of the **Second International Congress on Surface Activity**, Vol II, pp 102-108.
3. Blank, M and LaMer, VK (1957) The Transfer of Monolayers through Surface Channels - II. Mechanism. **Journal of Physical Chemistry** 61:1611-1614.
4. Blank, M and Roughton, FJW (1960) The Permeability of Monolayers to Carbon Dioxide. **Transactions of the Faraday Society** 56:1832-1841.
5. Blank, M (1961) The Effect of Vapors on Monolayer Permeability to Carbon Dioxide. **Journal of Physical Chemistry** 65:1698-1703.
6. Blank, M and LaMer, VK (1962) The Energy Barrier for Monolayer Penetration, in "**Retardation of Evaporation by Monolayers**", edited by VK LaMer. Academic Press, New York, pp. 59-66.
7. Blank, M (1962) The Permeability of Monolayers to Several Gases, in "**Retardation of Evaporation by Monolayers**", edited by VK LaMer. Academic Press, New York, pp. 75-95.
8. Blank, M and Rosano, HL (1962) Surface Chemistry in a Biophysics Curriculum. **Journal of Chemical Education** 39:184-186.
9. Blank, M (1962) Monolayer Permeability and the Properties of Natural Membranes. **Journal of Physical Chemistry** 66:1911-1918.
10. Blank, M and Feig, S (1963) Electric Fields across Water-Nitrobenzene Interfaces. **Science** 141:1173-1174.
11. Blank, M and Ottewill, RH (1964) Adsorption of Aromatic Vapors on Water Surfaces. **Journal of Physical Chemistry** 68:2206-2211.
12. Blank, M (1964) An Approach to a Theory of Monolayer Permeation by Gases. **Journal of Physical Chemistry** 68:2793-2800.
13. Blank, M and Britten, JS (1965) Transport Properties of Condensed Monolayers. **Journal of Colloid Science** 20:789-800.
14. Blank, M (1965) A Physical Interpretation of the Ionic Fluxes in Excitable Membranes. **Journal of Colloid Science** 20:933-949.
15. Blank, M (1965) Some Effects due to the Flow of Current Across a Water Nitrobenzene Interface. **Journal of Colloid and Interface Science** 22:51-57.
16. Blank, M (1966) Physical Models in Research on Biological Membranes. **Annals of the New York Academy of Sciences** 137:755-758.
17. Blank, M and Essandoh, SO (1967) The Surface Potential of a Di-Palmitoyl Lecithin Monolayer when Acetylcholine is in the Subphase. **Nature (London)** 215:286-287.
18. Blank, M (1967) The Accumulation of Ions at Water Nitrobenzene Interfaces during Transference. in "**Physics and Physical Chemistry of Surface Active Substances**", edited by Overbeek; Gordon and Breach, University Press Belfast, Vol II, pp 233-243.
19. Blank, M (1967) The Process of Monolayer Permeation by Gases. in "**Physics and Physical Chemistry of Surface Active Substances**", edited by Overbeek; Gordon and Breach, University Press, Belfast, Vol II, pp 969-979.
20. Blank, M and Miller, IR (1968) Transport of Ions Across Lipid Monolayers: Structure of Decylammonium Monolayers at the Polarized Mercury Water Interface. **Journal of Colloid and Interface Science** 26:26-33.
21. Miller, IR and Blank, M (1968) Transport of Ions Across Lipid Monolayers: Reduction of

- Polarographic Currents of Cu^{++} by Decylammonium Monolayers. **Journal of Colloid and Interface Science** 26:34-40.
22. Britten, JS and Blank, M (1968) Thallium Activation of the $(\text{Na}^{+}\text{-K}^{+})$ -activated Adenosine Triphosphatase of Rabbit Kidney. **Biochimica Biophysica Acta** 159:160-166.
 23. Blank, M and Mussellwhite, PR (1968) The Permeabilities of Adsorbed Monolayers to Water. **Journal of Colloid and Interface Science** 27:188-192.
 24. Blank, M (1968) Introductory Remarks to New York Heart Association Symposium "Physical Chemistry of Interfacial Transport", **Journal of General Physiology** 52:187S-190S.
 25. Blank, M (1968) Monolayer and Interfacial Permeation. **Journal of General Physiology** 52:191S-208S.
 26. Blank, M, Goldstein, AB and Lee, BB (1968) Surface Properties of Lung Extract. **Journal of Colloid and Interface Science** 29:148-154.
 27. Blank, M (1969) Intermolecular Interactions in Newly Spread Serum Albumin Monolayers. **Journal of Colloid and Interface Science** 29:205-209.
 28. Britten, JS and Blank, M (1969) The Action of Phloridzin and Sugars on the $(\text{Na}^{+}\text{-K}^{+})$ -Activated ATPase. **Journal of Membrane Biology** 1:238-247.
 29. Blank, M (1970) Transport Processes Across Liquid Interfaces and Monolayers. in **Permeability and Functions of Biological Membranes**, edited by L Bolis et al.; North Holland, Amsterdam, pp 177-184.
 30. Blank, M and Britten, JS (1970) Determination of Yield Stress in Films of Lung Extract. **Journal of Colloid and Interface Science** 32:62-66.
 31. Blank, M and Britten, JS (1970) Electron Flow at the Polarized Mercury-Water Interface in the Presence of Membrane Fragments Rich in $\text{Na}^{+}\text{-K}^{+}$ -activated ATPase. **Journal of Membrane Biology** 2:1-16.
 32. Blank, M, Lucassen, J and van den Tempel, M (1970) The Elasticities of Spread Bovine Serum Albumin and Ovalbumin. **Journal of Colloid and Interface Science** 33:94-100.
 33. Blank, M and Lee, BB (1971) Problems in the Study of Spread Films of Lung Extract. **Journal of Colloid and Interface Science** 36:151-152.
 34. Werman, R, Brookes, N and Blank, M (1971) The Stoichiometry of Transmitter-Receptor Interactions. **Experientia** 27:1120.
 35. Blank, M (1972) The Role of Surface Forces in Drug-Receptor Interactions. **Journal of Colloid and Interface Science** 38:470-476.
 36. Blank, M (1972) Cooperative Effects in Membrane Reactions. **Journal of Colloid and Interface Science** 41:97-104.
 37. Miller, IR, Britten, JS and Blank, M (1972) Polarographic Assay of p-Nitrophenyl Phosphatase Activity. **Analytical Biochemistry** 50:84-88.
 38. Sweeney, GD and Blank, M (1973) Some Electrical Properties of Thin Lipid Films Formed from Cholesterol and Cetyl-trimethylammonium Bromide. **Journal of Colloid and Interface Science** 42:410-417.
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